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WIPRO NGA Program – C++ LSP

Capstone Project Presentation – 12 August 2024

Project Title Here - Online Reservation System using client server Architecture

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AGENDA

1. INTRODUCTION
2. PROJECT SCOPE
3. VARIOUS APPLICATION TOOLS
4. SYSTEM FLOW
5. MODULES
6. FUTURE ENHANCEMENT
7. CONCLUSION

PROJECT OVERVIEW

- The Online Reservation System project aims to develop a reliable and user-friendly online platform that enables customers to make reservations for various services (e.g., restaurants, hotels, events) conveniently and securely.
- This Project is an Online Reservation System Implemented in C++ that utilizer sockets for inter process communication.

INTRODUCTION

- The online reservation system is a client-server application that allows clients to make reservations and receive confirmations. The system is designed to improve efficiency and reduce errors in the reservation process. the design, implementation, and testing of the online reservation system.
- Definition: An online reservation system is a software application that allows users to make reservations for a hypothetical restaurant or venue.
- Importance: Online reservation systems are widely used in the hospitality industry to manage bookings and reservations.

PROJECT SCOPE

- Secure Booking Process: Implement robust security measures to protect customer data and payment information from unauthorized access, tampering, or loss. Ensure secure transmission and storage of sensitive data.
- User-Friendly Interface: Design an intuitive and easy-to-use interface for customers to search, select, and book services online. Provide a seamless user experience across various devices and platforms.
- Convenient and Accessible Booking: Provide a convenient and accessible way for customers to make reservations online.Offer features such as real-time availability, booking confirmations, and reminders to enhance the user experience.

VARIOUS APPLICATION TOOLS

1. Development Tools:

- GCC(GNU Compiler Collection)

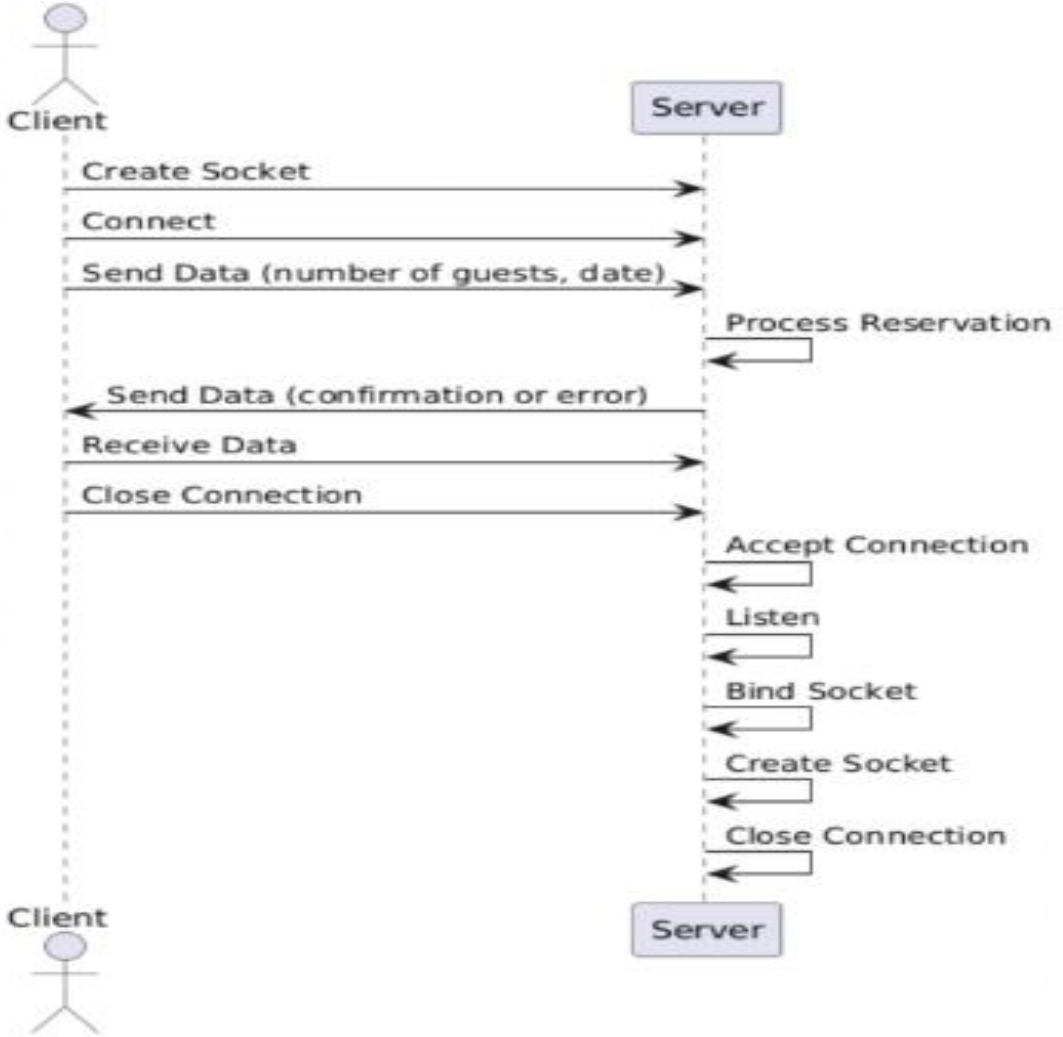
2.System Monitoring Tools:

- Netstat, Ss(Socket, statistics)
- Lsof3.

Debugging and Testing Tools:

- GDB
- Valgrind
- Shell Scripts
- Network Development Tools: Socket Programming, TCP/IP

SYSTEM FLOW


Client
Server
Create Socket
Connect
Send Data (number of guests, date)
Process Reservation
Send Data (confirmation or error)
Receive Data
Close Connection
Accept Connection
Listen
Bind Socket
Create Socket
Close Connection
Client
Server

MODULES

The online reservation system consists of the following components:

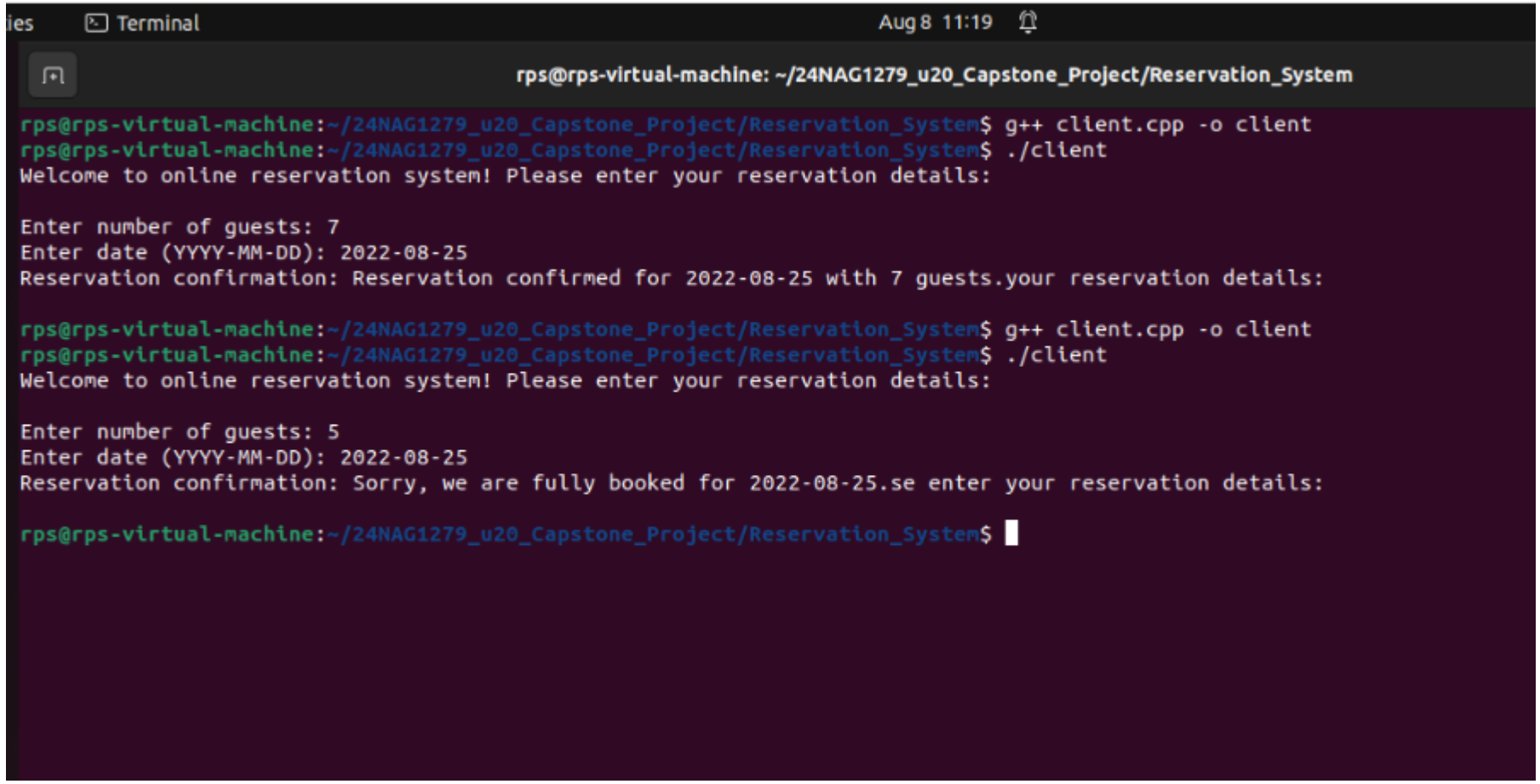
- **Client:** The client is responsible for sending reservation requests to the server. The client is implemented using C++ and sockets.
- **Server:** The server is responsible for processing reservation requests and sending confirmations back to the client. The server is implemented using C++ and sockets.
- **Database:** The database is responsible for storing information about available seats and reservations. The database is implemented using a simple text file.
- **User Interface:** The user interface is responsible for providing a user-friendly interface for clients to make reservations and for administrators to manage the system.

SYSTEM REQUIREMENT

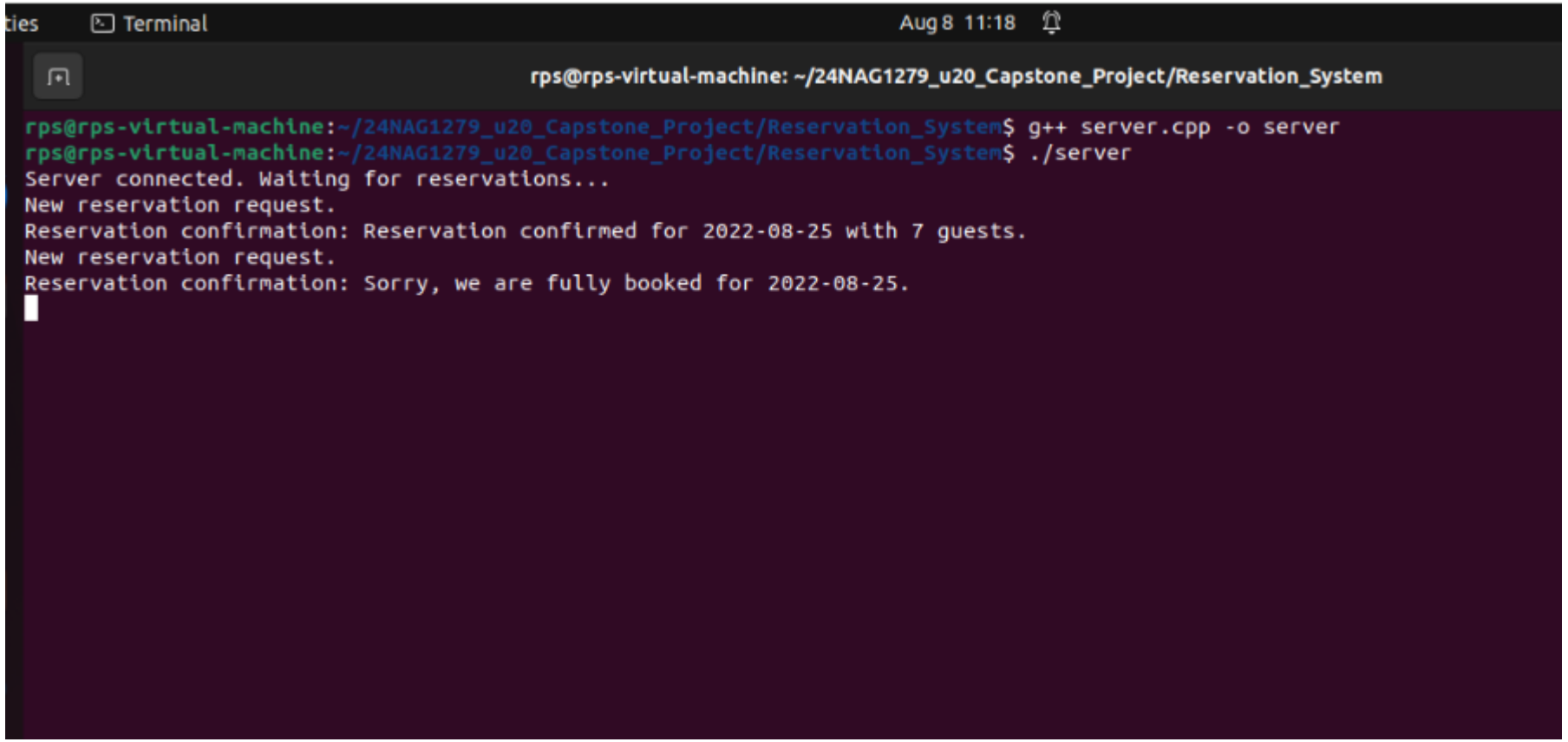
The system requirements for the online reservation system are as follows:

- **Functional Requirements:**The system should allow clients to make reservations online.
  - The system should keep track of available seats and prevent overbooking.
  - The system should provide a confirmation to the client upon successful reservation.
  - The system should allow administrators to manage the system and view reservations.
- **Non-Functional Requirements:**The system should be implemented using C++ , sockets.
  - The system should be scalable and able to handle multiple clients simultaneously.
  - The system should be secure and prevent unauthorized access.
  - The system should be user-friendly and easy to use.

OUTPUT : CLIENT SIDE



OUTPUT : SERVER SIDE



FUTURE ENCHANCEMENT

The future work for the online reservation system includes:

- Implementing a more robust database system Adding additional features such as cancellation and modification of reservations.
- Improving the user interface and user experienceImplementing security measures such as encryption and authentication .
- Implementing a web-based interface for clients to make reservations.

CONCLUSION

- This project is to design and implement an online reservation system that allows clients to make reservations and receive confirmations. The system should keep track of available seats and prevent overbooking. The system should also provide a user-friendly interface for clients to make reservations and for administrators to manage the system.
- The system is designed to improve efficiency and reduce errors in the reservation process.


Thank
you!